UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,103	03/30/2007	Richard Eliot Bates	SCDY 22.344 (100809-00310	7507

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KATTEN MUCHIN ROSENMAN LLP
575 MADISON AVENUE
NEW YORK, NY 10022-2585

EXAMINER
HADIZONOOZ, BANAFSHEH

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 August 2009</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>09/29/2009</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Detailed Action

In response to the amendment filed on 08/10/2009, Claims 1-20 are pending. This

action is made Final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 includes the following claim elements that are a means (or step) plus

function limitation that invoke 35 U.S.C. 112, sixth paragraph. Applicant's specification

provides the following definitions for these limitations. Means for indicating is described

as a display. Means for indicating target actions is described as a display screen.

Means for comparing a detected actions and detecting a timing offset is described as

computer programs that are running in comparator unit and the score generator unit

accordingly.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Sone et al. (US 5,804,752) in view of Jae-Chang (US 5,511,053).

Regarding claims 1 and 15 Sone discloses a karaoke apparatus with individual scoring comprising:

Means for indicating successive target actions to be executed by the user, each target action having an associated time of execution (See Col.3, 48-65), scoring logic in which user actions are compared with the target actions (See Col.7, 24- 50), input arrangement for detecting user actions(e.g. voice processing and microphone)(See Fig.1), means for comparing a detected sequence of user actions with a sequence of target actions(e.g. difference calculator)(See Col.7, 4-23 and Fig.7, element 5031) and means for detecting the timing offset between the sequences of user actions and corresponding sequence of target actions (See Fig.3 and Col.3, 48-Col.4, 20). Sone does not specifically disclose that the timing offset is detected at the beginning of each group of target actions and that the timing offset is applied as the relative displacement between the detected user actions and the target times for the duration of each group of target actions. Jae-Chang discloses a Karaoke apparatus with music singer evaluation capabilities, wherein the time difference between the aural synchronized signal or the reference signal and the user input signal is used to assess user's singing ability (See Abstract and Fig2C Col.3, 58-63 and Col.4, 43-6). Therefore, it would have been obvious to one of ordinary skill in the art to modify Sone's invention to incorporate the features of the Jae-Chang's invention in order to design a system with more precise method for user's skill evaluation.

Regarding claims 2 and 4, Sone discloses that the user action involves generation of musical notes (e.g. singing in the microphone) and that the scoring logic is operable to detect that the user has successfully carried out a target action if a musical note is within the tolerance amount(See Col.6, 48-Col.7, 23 and Figs 8B, 8C and 9)

Regarding claim 3, Sone discloses that the target actions indicate a required musical note (See Col.7, 51-65).

With respect to claim 5, Sone discloses that the target actions indicate the required word to be song (e.g. the lyrics), the user action involves singing the required word (e.g. to the microphone) (See Col.4, 10-21) and that the scoring logic is operable to vary the tolerance amount in dependence on the required word (See Col.6, 1-9 and 48-66 and Col.7, 51-65).

Regarding claims 6 and 7 Sone discloses that the scoring logic is arranged to detect a difference in tone between a target musical note and the multiple of user-generated notes and further the scoring logic is operable not to carry out the comparison for a predefined set of words (See Col.8, 11-20 and 32-57).

With respect to claims 8-10, Jae-Chang further discloses that the successive actions are separated by pauses (See Col.5, 31-34) in which no user action is expected and wherein the scoring logic is arranged to detect the pauses.

With respect to claim 11, Sone discloses that the scoring logic is arranged to detect the correlation between the sequence of user actions and the sequence of target actions at two or more values of timing offset (e.g. takes the average of time differences through the singing practice) (See Col.9, 6-26). Sone does not specifically disclose that

the timing offset is set to be one the possible values for which the correlation is greatest. However, the applicant has not disclosed if this feature solves any stated problem or is used for a particular purpose. Moreover, one of ordinary skill in the art would have expected the invention to work equally well with scoring method disclosed in Sone's invention. Therefore, it would have been obvious to one of ordinary skill in the art to modify Sone's invention to include other scoring logics because such modification would be considered as a matter of design choice.

Regarding claim 12, the Jae-Chang discloses comparing the user action to the target action at timing offsets (See Col.4, 66-Col.5,6) and to set the timing offset to zero(e.g. it determines that the user's singing matches that of reference audio signal) if there is less than a predetermined correlation between the sequence of user actions and target actions(See Col.5, 1-6 and 12-30).

Regarding claims 13 and 14, Sone discloses that the target times of execution define start times and duration in respect of the associated target actions (See Col.4, 25-50)

Claims 16-19 disclose means to perform claims 1 and 15 above.

With respect to claim 20, Jae-Chang discloses a display for indicating successive target actions to be executed by a user (See fig1, element 600 and col.5, 45-48), each target action having an associated target time of execution (See Abstract and Col.3, 58-63); scoring logic in which detected user actions are compared with target actions, scoring logic comprising:

An input arrangement (e.g. voice detecting unit)(See Fig.1, element 410); a comparator

for comparing a detected user actions (see fig.1, element 710); a detector for detecting

a timing offset between the sequence of user actions and corresponding sequence

target actions(See fig.1, element 420), in which for comparison purpose the apparatus

is arranged to apply timing offset as a relative displacement between the detected user

actions and the target times (See Figs, 3A-3F).

Jae-Chang does not specifically disclose that the target actions are arranged as

successive group of target actions and that the timing offset is also calculated as the

duration of each group of target actions. However, Sone discloses such in his invention

(See Col.9, 11-25 and Col.4, 25-50). Therefore, it would have been obvious to one of

ordinary skill in the art to modify Jae-Chang's invention to incorporate the scoring logics

as disclosed by Sone in order to design a system that is more efficient in evaluating the

overall performance of a singer.

Response to Arguments

Applicant's arguments filed on 08/10/2009 have been fully considered but they

are not persuasive.

The applicant argues that Jae-Chang detects the timing offset between signal "a" and

the target actions. He further argues that the signal "a" is not heard by the user and that

it can not be reasonable to equate the target action to signal "a". The examiner

disagrees. The examiner notes that the signal "a" is defined as the signal recorded on

the laser disk by the manufacturer to indicate where the words of a song should be

started. Therefore, it is reasonable to conclude that the signal "b" starts at the same time as the signal "a". Therefore, comparing the time difference between the user's input and signal "a" would yield the same time difference value as the different between the user's input and signal "b".

The applicant further argues that the timing offset is not applied in Jae-Chang's invention. The examiner notes that according to previous office action, Jae-Chang discloses the feature of "detecting the timing offset at the beginning of each group..." and that the application of the timing offset detection in Jae-chang is not relevant to the rejection of the instant application.

The examiner further notes that in the specifications of the instant application the group of target actions as disclosed in claim 1, is defined as being a group separated by pauses in which no user action is required. Signal "a" as disclosed by Jae-chang marks the time in which user's input is required, and hence no user action is required in between. Therefore, signal 'a" basically defines a group of target actions separated by pauses.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Banafsheh Hadizonooz whose telephone number is

571-272-1242. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Xuan Thai can be reached on (571) 272- 7147. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BH

/Cameron Saadat/
Primary Examiner, Art Unit 3715